

Academic Drift in Brazilian Education

La tendencia academicista en la educación brasileira

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Abstract

Brazilian education is marked by a strong *academic drift*, which has been a major obstacle to its differentiation, accessibility and improvement. Differentiation in education is important to provide educational opportunities for people with varying backgrounds and motivations, but is strongly opposed by stakeholders within the education communities. Brazilian education institutions are formally very similar at each level, in spite of the large social and geographical differences throughout the country. There are very few students in vocational courses at secondary schools, and not many in short-term post-secondary course programs. Graduate education is highly academic, leaving little space for professional master programs and applied research. Part of the problem is related to the 1996 National Education Law, which requires a very extensive academic curriculum for all students in secondary education. This situation is further aggravated by the National High School Exam, a comprehensive test which is being adopted as an entrance examination for many universities and does not give students the option to choose the type of education or subject area in which they will be examined. Consequently, a large number of students are unable to complete secondary education and tend to drop out, while at the same time, the country faces a serious lack of skilled workers of middle education level. This paper argues for the need to reverse this trend.

Keywords: education, academic drift, vocational education, secondary education, social policy, Brazil

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Resumen

La educación brasileira se destaca por una fuerte tendencia academicista (“academic drift”), que ha sido un obstáculo para su diferenciación, accesibilidad y mejoramiento. La diferenciación en educación es importante para proporcionar oportunidades educacionales para las personas con distinta formación y motivaciones, sin embargo, encuentra fuerte oposición por parte de los grupos de interés de la comunidad educacional. La educación brasileira es altamente homogénea en los diferentes niveles, a pesar de las grandes diferencias sociales y geográficas en el país. Hay muy pocos estudiantes en cursos vocacionales en la enseñanza media y no muchos en programas cortos después de ésta. La educación superior de posgrado es altamente académica, con poco espacio para los programas profesionales de magíster e investigación aplicada. Parte del problema se relaciona con la Ley de Educación Nacional de 1996, que requiere un currículum académico muy amplio para todos los estudiantes de la enseñanza media. Esta situación se agrava por el Examen Nacional para la Enseñanza Media, que se está adoptando como un examen de acceso a muchas universidades y no permite a los estudiantes la elección del tipo de educación o área disciplinaria en la que serán evaluados. Como consecuencia, muchos estudiantes son incapaces de terminar la enseñanza media y se retiran del sistema educacional, mientras que el país enfrenta una seria falta de trabajadores talentosos de nivel educacional medio. El artículo expresa la necesidad de revertir esta tendencia.

Palabras clave: educación, tendencia academicista, educación vocacional, educación secundaria, política social, Brasil

The focus of this text is the strong “academic drift” that has been a major obstacle in the differentiation of the Brazilian educational system for its improvement. This article begins with an introduction and expands the ideas in the latter seven sections. In the first section, it is discussed the definition of academic drift based on existing international literature on the subject: the relevance of institutional differentiation in education, and the way academic drift operates to limit or prevent this differentiation. In this section it is argued that this drift derives from the fact that education has a different “positional” value, which competes with the value of human capital. In the second section, it is discussed the matter of quality in secondary education. Here it is argued that the practice of requiring all Brazilian students to follow the same academic curriculum condemns the majority of these to failure, given the high level of diversity of Brazil’s school-age population. The secondary level academic drift is built into Brazil’s main educational legislation, while the 1988 Education Guidelines and Foundations Law goes against the empirical evidence gathered by Cunha and Heckman regarding the processes of intellectual and emotional development from childhood onwards and its implications for the education of adolescents and young adults (Cunha & Heckman, 2007). Heckman’s work has been greatly influential in the development of preschool education in Brazil, but the implications of that work for secondary, professional, and vocational education have not been fully considered. In the third section, it is criticized the Brazilian National Secondary School Examination¹, whose current format leads to the reinforcement of academicism and is a barrier against differentiation in Brazilian secondary education. In the fourth and fifth sections it is referred to the difficulties that Brazil has faced and will continue facing, given the current trends in the development of secondary and post-secondary-level vocational education. It is argued that the federal government’s recent decision to create a national system of Institutes of Technology may be a step backwards in this regard. In the final section, it is discussed the Brazilian graduate educational sector, which it seems to be of uneven quality as well as self-focused and of little impact on matters of technological development and its applications. The text concludes by making reference to the Bologna Process, which seeks to diversify and flexibilize European higher education. Despite the growing relevance of education as an issue of public policy, the discussion of this matter in Brazil has been a very superficial, focused more on gradually improving what exists rather than questioning its foundations and opening up to new horizons. Perhaps the reconsideration of the academic drift may offer an opportunity for progress in these matters.

¹ Exame Nacional de Ensino Médio - ENEM

Academic Drift, Differentiation, and Positional Goods in Education

The term *academic drift* is used in scholarly literature regarding higher education to describe the tendency of educational institutions to raise their status by imitating the curricula and organizational models of their more prestigious counterparts, thereby reducing diversity within educational systems. The consequences are that instead of becoming more egalitarian, the educational sector becomes increasingly more stratified, hierarchical, and inefficient, all in the name of equality (Neave, 1979; Rhoades, 1990). In Brazil, this intense drift is not only an observed trend, but also part of the law. This leads to negative consequences for the majority of secondary, undergraduate and graduate students, and for society as a whole. The objective of this text is to discuss this matter within secondary, vocational, undergraduate and graduate level education in Brazil.

There are several reasons why diversity is important (Van Vught, 2008). First of all, differentiated educational systems offer better access to education for students with different personal backgrounds and types of academic training and offer most of them realistic opportunities for success. Second, diversified systems favor socioeconomic mobility by offering a number of alternatives for entry and transfer in education programs; thus creating a broader range of opportunities and allows for more flexible study patterns. Third, diversified systems respond better to labor market needs, producing human capital with a number of different skill sets. Fourth, this diversity meets the need for social recognition of social groups that would be excluded by unified academic systems bound to the academic and achievement patterns of the most educated sectors of society (which also tend to be the wealthiest tier). Fifth, differentiated systems allow for the combination of elite education and education with a broader mission, offering education services to a heterogeneous public and responding to the multiple demands of the labor market. Without differentiation, unified systems end up having to reduce their quality standards when they offer education at a mass level, which prevents the development and maintenance of institutions of excellence. Sixth, differentiated systems are more efficient, because the objectives of each institution or sector are more closely tailored to the needs of their students. Finally, diversified systems offer more opportunities for experimenting and innovating, which can take place in specific institutions or sectors requiring major changes to the system as a whole.

If there are truly so many benefits to differentiation, how do we then explain the academic drift that leads educational systems to uniformity? Part of the explanation has to do with the fact that the value of education does not solely depend on what it produces in terms of knowledge and qualifications, which are recognized by individuals and by the labor market as goods in and of themselves; it also depends on people's relative position on a scale of prestige and reputation. This scale is maintained and fostered by people and institutions that hold the highest positions, positions that everyone else tries to emulate.

The assertion that education is a "positional" good is generally attributed to the 1977 text by Fred Hirsch (Hirsch, 1977), which is counterpoint to the theories of human capital that predominate in the educational economic literature.² For Hirsch, education has two dimensions, an absolute dimension, which is human capital, whose value increases with good students, good teachers, good facilities, etc.; and a relative dimension, whose value depends on the place a person holds in relation to others in the educational ladder. This relative dimension means that education equality is by definition an illusion. The same goes for the labor market, where people's opportunities for quality jobs increase when their skill levels are raised, but distributes people looking for work within a hierarchy of jobs, with different working conditions, salaries, and social positions. The absolute dimension refers to the performance requirements of individuals, organizations, and societies and is expressed in the way schools, businesses and governments seek to fulfill their objectives by improving teaching quality, productivity and developing the economy. On the other hand, the relative or positional dimension has to do with how individuals, universities and companies place themselves within an implicit or explicit hierarchy of prestige, seeking to maximize their reputation, a good that is inherently scarce in this kind of competitive environment. Institutions that succeed are able to recruit the best students, place them in the best positions within the labor market and attract more public and private investment. This trend for talent and resources concentrated at the top level was named "The Matthew Effect" in scientific research by Robert K. Merton in 1968, whereby "giving to those who have more will lead to him having it in abundance; but giving to he who does not have, will lead to him ending up with even less." The same effect can be observed in education, particularly in higher education (Merton, 1968).

² The following is based on (Brown 2003).

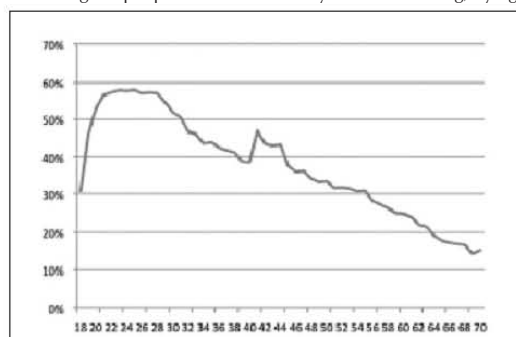
The main thesis is that the absolute and the relative dimensions of education can cause tension with one another, producing high costs and inefficiencies, particularly when the positional dimension predominates. The competition for positions of prestige can bring benefits when it acts as an incentive to achieve better quality and higher performance. However, it can also lead to great inefficiency when people become overqualified or have irrelevant qualifications, because they compare themselves to one another with little awareness of the external demands of the labor market. Resources can also become overly concentrated at the top of the hierarchy and people can lose themselves in the competition for the highest positions, without looking for more realistic objectives that can be obtained with differentiated systems. In order to avoid the negative effects of academic drift, the actors that do belong to the established academic hierarchies, but who are still interested in the different products and results of education need to exercise their influence and open up spaces for alternatives.

Academic Drift and the Crisis of Quality in Secondary Education³

The most recent evaluations of the Brazilian educational system carried out by the Ministry of Education (through the nationwide standardized test known as *Prova Brasil*)⁴ and the OECD through PISA, the Program for International Student Assessment, given to 15-year-old students in OECD and other countries (OECD, 2009) indicate small levels of progress in recent years. Still, these results are far from satisfactory and may not be sustainable. In secondary education, the results obtained in Portuguese language by public school students in their third year of high school rose from 260 to 262 points between 2005 and 2009, and from 260 to 266 in Mathematics over the same period in scales that have 250 points as the mean score. The consensus by the specialists from the “Everyone For Education” movement⁵ is that results should be at least 300 points in Language and 350 points in Mathematics at this level. Private school students are not much better. In 2009, only 30% of Brazilian students from public and private schools obtained the minimum expected levels in Language, and only 11% reached them in Mathematics.

These are only the results of those who were able to finish high school. Dropout rates for Brazilian schoolchildren are much lower than they were in the past with 99% of 11-year-olds currently in school. However, this number decreases to 95% among 14-year-olds, 76% among 17-year-olds and 54% among 18-year-olds⁶. Only 49% of youths aged 15 to 17 are actually in high school as they should; 33% of them are still in elementary school and 15% of them have dropped out. In 2009, 58% of young people aged 23 had finished at least 11 years of schooling, which corresponds to a complete high school education. This percentage is 20 percentage points higher than that of the previous generation that is, adults 45 years of age (see figure 1).

Figure 1
Percentage of people with 11 or more years of schooling, by age



Source: National Household Sample Survey (PNAD), 2009

³ This section is based, in part, on two previous articles (Schwartzman 2010a; Schwartzman 2010b)

⁴ The Prova Brasil consists of tests of Portuguese language and Mathematics administered to fifth- and ninth graders in all public, urban schools above a certain size all over the country. It is carried out in conjunction with the Basic Education Evaluation System (known by its Portuguese acronym SAEB), a sample-based assessment given to students in the last year of high school. The results of Prova Brasil and SAEB are combined with student enrollment data to obtain the Basic Education Development Index (known by its Portuguese acronym IDEB).

⁵ “Todos pela Educação” is a private, not-for-profit association supported with private resources who seeks to influence education policies in Brazil by increasing its quality and relevance. <http://www.todospelaeducacao.org.br>

⁶ Data from the yearly National Household Sample Survey (PNAD), carried on by the Brazilian Institute for Geography and Statistics (IBGE), <http://tinyurl.com/2ee7s3a>

The combination of quality and coverage data indicates that less than 20% of Brazilian youths obtain minimally acceptable skill levels in Language (measured through reading comprehension) and only 6% obtain this minimum in Mathematics. These percentages, which are also increasingly considered to be the minimum requirements for the labor market lead to serious questions not only regarding why they are so low, but particularly concerning what to do to overcome this situation.

The causes evidenced by Fernando Veloso and Menezes Filho (Menezes, 2011; Veloso, 2011), start with the precariousness of preschool education and continue throughout the eight or nine years of elementary education. Beyond individual differences in motivation and types of intelligence, students reach high school with limitations and disadvantages related to their socioeconomic origins that have accumulated over the years nevertheless; this is not unique to Brazil. Summarizing the large amount of literature written concerning this issue, Flávio Cunha and James Heckman writes that “any analysis of human development needs to consider three well-established observations regarding ability. The first is that ability makes all the difference. A large number of empirical studies show that cognitive ability is an important determinant of salary, educational level, delinquency and success in a number of aspects of economic and religious life [...]. The second observation, established more recently, is that abilities are multiple by nature. Non-cognitive abilities (perseverance, motivation, inter-temporal preferences, risk aversion, self-esteem, self-control, preference of leisure activities) have direct effects on salary (controlling for education level), the ability to stay in school, teen pregnancy, smoking, delinquency, performance in skills tests and a number of other social and economic aspects of life [...]. The third observation is that the “nature versus nurture” dyad is obsolete. One’s genes and environment cannot be viewed in isolation from linear models that identify variances in each model” (Cunha & Heckman, 2007).

The evidence gathered by Cunha and Heckman relating to the importance of early childhood education has been cited in Brazil and used to justify the expansion of early childhood education that has taken place in recent years. Still, the evidence they present concerning the consequences on large number of youth who did not benefit from this expansion has not been taken into consideration. This evidence indicates, first of all that intellectual development—as measured in IQ tests that evaluate cognitive capacity—can be stimulated in children until they reach the age of ten, after which this development ceases. Second, the evidence indicates that the later any work is done to compensate for deficits in initial formation, the more expensive and less effective that work will be. The third result shown by the evidence is that late intervention can offer important results if oriented towards non-cognitive abilities, but classroom remediation programs designed to combat early cognitive deficits have a poor track record.

This evidence calls into question the merits of uniform secondary school education in Brazil, as well as education programs for youth and adults (known by their Portuguese acronym EJA) designed to help those who dropped out of school in quickly acquiring the abilities and general knowledge generally taught at younger ages. These handicaps, which are strongly correlated to economic, familial, cultural, and ethnic variables, are a central issue in discussions of educational policy in the United States, where the major debate is whether to treat everyone as equals (and allowing existing differences to surface on their own) or to acknowledge differences and treat them as such (Coleman, 1990; Gottfredson, 2005; Paige & Witty, 2010).

The way this issue should be addressed at the secondary level is well known, however, it is very difficult to implement: a range of alternatives should be opened up to offer different courses so that students can find their own individual paths to education that suit both their previous education and their own interests. This issue is less relevant in small, wealthy, and relatively homogeneous countries where practically all students receive good quality education from the onset and can reach secondary education with a broad-based, egalitarian education; but it is the rule in almost all other countries. In most of them, this differentiation is between a more academic and conventional secondary education on the one hand and vocational education on the other. In countries like Australia and Germany, for example, the majority of students follow the latter path (see table 1).

Table 1
Percentage of Total High School Students in Vocational Education

Australia	61.1
Germany	57.5
France	43.8
China	42.6
Chile	37.2
Mexico	9.4
Source: UNESCO Statistics Institute, 2008	

Fernandes (2011) acknowledges this issue and mentions the main alternatives that other countries have adopted to address it (the American model of “comprehensive high schools,” and the European model of separating students into separate vocational and academic tracks). However, he believes that neither of these models would be feasible in Brazil and concludes that the optimal solution would be for the country to continue following the model of unified secondary education in place today and try to make it more attractive for students by emphasizing the practical knowledge it offers and the useful abilities it stimulates. There would be serious budgetary constraints involved if a differentiated secondary education system like the American one were to be implemented, as well as issues such as the devaluation of vocational education due to preconceptions regarding academic hegemony. Also, it would not make sense to create a socially stratified school system like the ones established decades ago in Europe, which are currently the object of criticism and revisions (Schwartzman y Christophe, 2005). These issues however, do not justify the insistence upon policies that contribute to exacerbating the problem.

The steps necessary to change this situation—which would not require any immediate expense—include ending the insistence upon the currently burdensome, uniform compulsory high school curriculum, allowing vocational education to develop independently, offering access to higher education when appropriate, and discontinuing the National Secondary School Examination (ENEM) in its current version, which has become a major point of access to higher education. This access should cease to depend on general qualifications, but rather on abilities that are specific to each type of education which can be assessed separately. As it becomes more widely available, higher education needs to diversify too, creating multiple paths to long-term or short-term formation, whether more academic or more vocational.⁷

The insistence in Brazil on maintaining a secondary school system with so much ambition, dysfunction, and inefficiency is part of a more general vision that permeates all of the country’s social policies, which assumes that everyone should have access to all desirable rights and benefits (in this case, those of academic education and its corresponding preparation for future university courses), even if in practice this means exclusion and restriction for the majority. Regarding costs, there is currently a consensus that investment in education should increase considerably, but such investment should not be used to reinforce the flaws of the existing educational system.

In the past, Brazilian legislation allowed for two options within mainstream high school education, the “scientific”, with emphasis on the natural sciences, and the “classical”, with emphasis on the humanities. Besides, the legislation allowed for other kinds of secondary studies - industrial, agricultural, commercial, and pedagogical education, among others. As time went on, these differences gradually died out and the 1996 Education Law revoked them almost completely. Instead, this law created a long, detailed list of what all Brazilian students needed to study, including “Portuguese language and Mathematics, the knowledge of the physical and natural world, and the social and political reality, especially in Brazil” (Section 1), the Arts (Section 2), Physical Education (Section 3), the History of Brazil and its different ethnicities (Section 4), and a foreign language from 5th grade onwards (Section 5). In addition, Article 27 of the law lists a series of other pedagogical elements related to civics and vocational schooling. Article 28 addresses the specificity of rural education. Article 32 offers more details regarding what abilities need to be developed in elementary education, including “the understanding of the natural and social environment, the political system, technology, the arts, and the values upon which society has been founded.” Article 36 talks concerning some of the elements required for secondary education, including “I: Understanding of the scientific and technological principles that orient modern production; II: Knowledge of the contemporary forms of language; III: Understanding of the elements of Philosophy and Sociology that are necessary for the exercise of one’s citizenship.” The second part of that article establishes that “secondary education, being focused on students’ general formation, can prepare them for the exercise of technical professions,” whether such formation takes place in the school itself or in cooperation with institutions that specialize in professional education. In recent years, congressional amendments to this law will include included six mandatory disciplines in the high school curriculum: Philosophy, Sociology, the Arts, Music, Afro-Brazilian and Indigenous Culture, and the Rights of Children and Adolescents. Curricular content such as road safety education, the rights of the elderly, and the environment are also listed as obligatory, and

⁷ The term “vocational education” is used internationally to refer to courses aimed more immediately at a student’s insertion in the labor market, as opposed to more academic or university-level courses. In Brazil, the term “technical education” is used for high school-level vocational schooling, while the term “technological education” is used for such schooling at the higher education level, regardless of whether such courses contain technical content.

there are several hundred other bills currently under discussion in Congress that propose other content (Tupinambás, 2010).

With so many mandatory requirements for general education, the fact that the law also allows for vocational education is innocuous. In fact, this legislation had two rather perverse effects: an excessively large compulsory curricula and the stifling of vocational education, which can only be taught in addition to, or after the more traditional secondary education. The only alternative are technical courses which may provide certificates but do not qualify as regular course work, such as those offered at the Paula Souza Center, which is run by the São Paulo state government, or at institutions like the Brazilian National Industrial Apprenticeship Service (known by its Portuguese acronym SENAI).

Currently, the regular secondary school curriculum requires students to take about fourteen different subjects, which means close to 3,000 hours of study over a period of three years. The result is that in most schools, subjects are taught in a flat, bureaucratic, and superficial way, without the possibility of actual educational depth. One of the main programs of the Ministry of Education to improve education at this level is called “Innovative Secondary Teaching,” which offers incentives to schools that meet certain performance criteria. However, despite its rhetoric of apparent innovation, this program only allows for 20% of courses to be outside the mandatory load. Students who want to obtain vocational training need to meet all these requirements and then, in addition, take courses of a more technical character. Given that it is impossible for students to take vocational courses in lieu of academic ones, and given that those who successfully complete the requirements of the academic course load are natural candidates for higher education anyway, it is no wonder that so few students follow such a path. According to the Ministry of Education’s 2009 Student Census, there were 9.8 million high school students throughout the country, but only 850,000 of them were taking regular technical courses—an extremely small proportion when compared to other countries.

Dysfunctional Aspects of the ENEM

This tendency towards uniformity is made all the more problematic by the National High School Exam (ENEM), which the federal government has sought to use as the main mechanism to access higher education. It is also as a measurement of the quality of secondary education in the country and also as a criteria in affirmative action programs, combining goals which may be in conflict with each other (Oliveira, 2010).

The classic way of evaluating what students learn in high school is through exams carried out in selected disciplines by external teachers or certification agencies. Examples of this kind of evaluation include the German *Abitur*, the French *Baccalauréat*, and the British A-Level, which offer universities a clear measure of student ability when conducting their admissions procedures. The other alternative are the general tests in areas like writing, vocabulary, logical reasoning, and mathematics, which are not associated with any particular curriculum but which do evaluate skills that are considered important for university study. An example of this is the Scholastic Aptitude Test (SAT), given in the United States.

Created in the 1990s, the ENEM was initially conceived to measure the abilities of Brazilian students who finished high school through “a single, multidisciplinary exam, with a written component and 63 objective questions based on a set of five skills and 21 abilities not be divided into disciplines like the majority of other exams” (Castro y Tiezzi, 2004). In 2009, the Ministry of Education negotiated with the federal universities to try to transform it into a university placement exam, and it became a true marathon, with 200 questions to be answered over the course of two days. The new ENEM seeks to evaluate students in four main areas of ability (language, mathematics, natural sciences, and human sciences)⁸ without offering space for options, and it thus obliges students and high schools to cover the entire encyclopedic curriculum. Since it was created in such a hurried way, the ENEM has experienced serious implementation problems, and the content of the exams has also been criticized. Under pressure from the Ministry of Education, most Brazilian universities do admit students based in part on their performance on the ENEM, but the more prestigious universities, which offer their own exams, do not weigh the ENEM results very heavily.

⁸ <http://www.enem.inep.gov.br>.

The problems of implementation have brought strong criticism against the educational authorities, but a much more serious problem has been its monolithic, encyclopedic nature, which discourages the diversification and improvement of the quality of high school education. A better alternative would be for high school students to have a larger number of educational options to choose from, from vocational and technical training to scientific or humanistic education, and thus be evaluated and certified in whichever professional or academic areas they choose. Meanwhile, higher education institutions could take the results of these evaluations or certifications into account, as long as the quality of the certification agencies was certified as well. A broad, differentiated system of evaluation such as this one would not have to be administered by the Ministry of Education. The Ministry could limit itself to certifying the certification agencies, which could be private, as they are in many countries; or public, and administered by state governments, professional associations, and/or educational companies. Exams like the American SAT could continue to be used in combination with other exams and certifications. A system such as this one would require a new vision for the nature and role of high school education in Brazilian society.

Academic Drift in Vocational Education

In the 1980s, the federal government created a series of Federal Professional and Technical Education Centers—about one per state—from older apprenticeship and trade schools. The idea was for these centers (known by their Portuguese acronym CEFET's) to offer technical and professional education to high school-age students. As federal entities, the CEFET's received substantially more financial and human resources than state and municipal schools. Admission to them was granted through selection exams and they became a path for well qualified students to prestigious university courses in technical careers. With that, the CEFET's ceased to fulfill their initial function, which was to educate high school-age students in vocational skills and thus prepare them for the labor market. The federal government sought to reverse this situation in the 1990s, separating the technical and academic aspects of the CEFET's so that students could choose between them. The technical curriculum would not offer a path to higher education, and instead would be a platform for those who were seeking a more immediate insertion into the labor market. This policy met with strong resistance from students and teachers at the CEFET's, especially the latter, who aspired to a career that was just as prestigious as that of professors at federal universities. This policy was finally eliminated by the administration of Luiz Inácio Lula da Silva: Law no. 11,892, which passed on December 30, 2008, consolidated close to 100 educational institutions of different levels to create 38 Federal Institutes of Professional, Scientific, and Technological Education. According to the website of the Ministry of Education, they are "38 federal institutes in all the states, offering an integrated high school curriculum, higher-level courses in technology, and bachelor's degrees (*licenciaturas*). New schools added to the federal network of schools will also be added to these institutes. This network is still made up of institutions that are not part of the federal institutes, but they also offer professional education at all levels. They include two CEFET's; 25 schools linked to universities and one technological university."⁹ Thus, for all intents and purposes, the new federal institutes are comparable to the federal universities including the new jobs for deans and administrators created for them. The difference is that they can also continue to offer high school-level technical courses as well as conventional technical education, as well as other kinds of training and professional certifications.

The creation of a series of higher education institutions focused on short-term professional training aimed at inserting people into the labor market as quickly as possible would be an important step forward for Brazil where the majority of higher education careers last four years or more. Brazilian law allows for shorter courses—named "technological courses"—but these are not often chosen because they are considered less prestigious and less likely to lead to a job placement. According to the higher education census of 2008, 5.155 million students were enrolled in higher education courses of which only 412,000 were taking technological courses. Of those 84% were enrolled in private institutions. Enrollment in such courses is on the rise but the numbers are still very low. Meanwhile regarding CEFET's, only 40,000 students were enrolled at higher education level.

It is unlikely that the recently created Federal Institutes and similar institutions will substantially alter this situation. An earlier example at the University of São Paulo (USP) is an indication of what can

⁹ <http://rededefederal.mec.gov.br/index.php>

happen. In 2004 the university established a satellite campus in a low-income area on the outskirts of São Paulo (“Zona Leste”), offering short-term vocational education unavailable at the main USP campus in Butantã. But some years after these courses were established, USP-Leste is begun to look more and more like the main campus of the USP amidst pressure from students and professors seeking the same benefits of prestige and reputation offered by traditional courses of study available in Butantã. Meanwhile, the Paula Souza Center which also belongs to São Paulo state has had a much more promising experience in the area of technical and professional education. This indicates that it is not a good idea to try to bring those courses requiring such different institutional cultures and requirements under the same roof.

Academic Drift in Higher Education

Brazilian higher education has expanded considerably over the past decade with 6.148 million students currently enrolled and 330,000 more enrolled in graduate studies according to the 2009 National Household Sample Survey (PNAD). There is a simple explanation for this growth trend: the major advantages that students who obtain a higher education diploma have in the labor market—especially in the public sector. Table 2 lists the occupational groups with more than 100 thousand persons with higher education and compares the mean monthly income of those who possess higher diplomas to those who do not as well as of those who work in the public sector with those who work in the private sector.

Table 2

Median income of all jobs in the public and private sectors (*), with or without higher education, by occupational group

Occupational groups	Median income				Total people		
	Without postsecondary degrees		With postsecondary degrees		Total without postsecondary degrees	Total with postsecondary degrees	Total overall
	public sector	private sector	public sector	private sector			
Education professionals (with postsecondary educations)	1.426,58	981,36	2.160,26	1.710,25	611.085	1.960.147	2.571.232
Health, biology, and related professionals	2.306,52	1.579,84	4.777,95	3.983,51	110.442	986.027	1.096.469
Bookkeepers	1.372,24	848,06	2.472,63	942,62	4.993.791	948.387	5.942.178
Managers	2.308,38	2.033,53	4.281,23	2.456,47	2.515.754	906.183	3.421.937
Social and human science professionals	1.658,36	1.522,98	5.537,73	2.435,67	424.990	818.837	1.243.827
Professionals in the exact and physical sciences and engineering	2.295,52	2.170,72	5.375,50	4.060,78	161.997	579.675	741.672
Mid-level technicians in administrative sciences	1.506,73	1.488,90	4.304,61	1.756,58	1.899.258	554.161	2.453.419
Legal professionals	4.286,10	1.159,78	8.632,86	3.452,04	79.339	523.746	603.085
Heads of corporations and organizations (non-public interest)	2.207,96	4.682,07	2.720,18	5.992,15	541.876	382.374	924.250
Service workers	828,57	525,70	2.597,03	532,78	18.305.433	314.256	18.619.689
Sales and trade workers	1.324,97	666,02	3.705,06	693,76	8.459.437	293.275	8.752.712
Communications, artistic, and religious professionals	1.679,58	780,04	3.126,50	1.072,43	607.345	185.468	792.813
Reception workers	1.037,21	638,97	1.799,75	679,81	2.429.311	179.332	2.608.643
Mid-level technicians in the physical sciences, chemistry, engineering, and related	2.019,55	1.325,71	3.217,41	1.454,23	1.256.133	177.015	1.433.148
Mid-level and non-specialized teachers	1.043,27	643,33	1.501,58	714,59	1.010.355	131.773	1.142.128
Military	1.883,77	1.995,02	3.852,91	2.245,54	608.744	126.172	734.916
Political leaders and advisors	2.637,38	1.766,08	4.928,57	2.269,24	126.706	116.309	243.015
Mid-level technicians in cultural services, communications, and sports	1.211,44	984,68	2.794,86	1.170,64	389.336	103.943	493.279
Overall median	1.295,11	737,19	3.267,20	3.099,00			

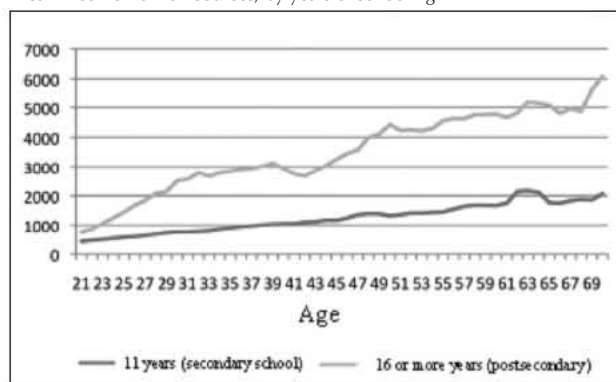
(*) Jobs with more than 100,000 people with postsecondary degrees

Source: The Brazilian Census (PNAD) 2009

In the private sector, the mean income of those who have completed a higher education course of study is 4.2 times higher than of those who have not. In the public sector, the mean income of those who have completed a higher education course of study is 2.5 times higher than of those who have not, because the public sector salaries for those without higher education diplomas are already relatively high. The largest professional category in the figure is that of teachers and professors whose mean income is not particularly high in comparison with some of the other categories but whose income rises substantially when the ones with higher education diplomas are employed in the public sector.

The other advantage of having obtained a higher education diploma is that one's income level continues to rise throughout one's career; the income of those who only finish high school increase at a much lower rate (see figure 2). This helps to explain why short-term higher education courses, which are known in Brazil as "sequential" or "technological" courses, practically never developed. The 2008 higher education census identified only 412,000 students in technological courses—83% of whom are enrolled in private institutions—out of a total of 5.1 million students. Enrollment in technological courses will inevitably grow, as long as students know that such courses will offer them a future, including the opportunity to apply the credits they have earned towards future studies, if they are so inclined.

Figure 2
Mean income from all sources, by years of schooling



Source: PNAD 2009

The Lula administration's educational policies for higher education basically consisted of encouraging access to public universities through quota systems, whether via *Prouni*, the purchase of spaces in the private sector via tax exemptions; or via *Reuni*, a financial incentive for federal universities to open up more spaces; or via the outright creation of new federal universities. According to data from the Ministry of Education's higher education census,¹⁰ overall enrollment in higher education courses increased by 46% between 2002 and 2008, with a 57% increase in private institutions and a 21% increase in public institutions. This meant that the percentage of Brazilian students enrolled in private institutions increased from 70% to 75% in higher education students. The number of university students increased by 72%, an increase of 87% in private institutions and an increase of 18% in public universities. These numbers make it clear that the main reason for the growth higher education was the response of the private sector to the growing demand, rather than the governmental social inclusion policies.

The Lula administration also changed the assessment system of higher education that was established in the 1990s. Without entering into the technical details of this process, which I have discussed elsewhere (Schwartzman, 2008a), it will suffice to say that this evaluation does not establish the minimum standards for different areas, fields and professions (for example, what is the acceptable minimum level of qualification for a doctor?). It limits itself to ranking higher education courses and institutions in a five point scale.

¹⁰ There are two sources of data about higher education in Brazil: the INEP higher education census conducted in conjunction with the universities themselves, and the PNAD door-to-door household sample survey conducted by the IBGE. The data of these two agencies do not completely coincide: the INEP census has more information about courses and institutions, while the PNAD survey has more information about individuals.

However it does not take into account the major institutional differences, and the different objectives, of different courses, and forces all of them to follow the same content and requirement molds needed for a good higher education, as used in the more prestigious research universities.

The idea that quality higher education should take place in the context of a university and be associated with research is established in the Brazilian Constitution of 1988. Article 207 of the Constitution puts forth that “universities enjoy didactic and scientific autonomy, as well as autonomous administration and financial management, and will obey the principle of interconnectedness of teaching, research, and extension”. The 1996 Education Law acknowledges that universities are only one part of a larger system of higher education, enjoying a type of autonomy unavailable to other types of institutions. It also stipulates that they must follow certain criteria for intellectual production, and have a sizeable proportion of full-time professors with doctorates. However, this law does not say what the specific functions and the desirable attributes of the non-university institutions should be.

In practice, Brazilian higher education has already become increasingly differentiated, contrary to the single model ordained by the constitution, with a small number of institutions that function like conventional universities and the majority of institutions (both public and private) dedicated almost exclusively to teaching. Today, the legislation acknowledges the existence of universities, higher education institutes and isolated educational centers, but this acknowledgment does not translate into differentiated curricula and quality assessment systems. Public institutions created in accordance to law are established as universities from the onset, while private institutions need to be approved as such by the Ministry of Education, a process that can be easy or hard, depending on when it takes place. Whether an institution is a formal university or not says very little regarding the kind of work it does, and in fact, quality graduate research and teaching take place in mostly in selected institutions in the Southeast areas of the country, in the states of São Paulo, Rio de Janeiro, Minas Gerais, Paraná and Santa Catarina.

This would not be a problem in and of itself, the massification of higher education and the expansion of private, business-oriented, or philanthropic higher education institutions led to major differences among institutions in all countries. The problem lies in the fact that despite this undeniable differentiation, it is not acknowledged or legitimated. This leads to an academic drift situation with serious consequences for the country.

All the federal universities are considered equal in terms of the pay scale of professors, most of whom are career public officials with full-time, exclusive contracts, whether or not they research or participate in academic extension activities that justify such contracts. This situation means that Brazilian public higher education is extremely expensive, in terms of cost per student. This phenomenon is exacerbated by the fact that by law, all public institutions have to be free of tuition. Meanwhile, the existence of a centralized assessment system based on the public institutions standards prevents the differentiated treatment of the students who study in private institutions. These students tend to be older; they tend to work during the day, and most tend to have not received a quality high school education that would prepare them for more academically rigorous university courses. The result of this is that the Brazilian higher education system sends out close to half a million students per year to the labor market, whose training is uncertain and likely to be precarious, but who still receive the benefits that private and especially public institutions offer to those who have academic credentials. This phenomenon is partially evident in Table 2, by the large number of people with higher education who work as technicians, bookkeepers, and other mid-level jobs. The fact that only slightly less than 20% of those who study Law in Brazil end up passing the national bar exam administered by the Brazilian Order of Lawyers is also symptomatic of this situation.

Academic Drift at the Graduate Level

With close to 11.000 PhDs and 32.000 academic articles published every year in internationally indexed journals, Brazil has the largest graduate education system in Latin America, and one of the largest in the developing world. Despite its many virtues, the system suffers from problems of academic drift that resemble those that exist at the secondary and higher education levels, which lead to a system largely closed in on itself, with PhDs that are tend to be hired by the very institutions that train them. This system also makes less than the desirable impact on technological development, knowledge transfers to the productive sector and, and contributions to the implementation of public policy (Schwartzman,

2008b). In most countries, master's programs are short and focused on the labor market; in Brazil, academic master's programs are the norm, which people study to become professors. While the number of scientific publications has increased in recent years, they tend to have a low impact as measured by the amount of times they are cited, and they are published more than anything so that they can count towards the evaluation of academics and graduate programs carried out by the Coordination of Higher Education Manpower Enhancement (CAPES), an agency within the Ministry of Education. The production of patents is very small, and activities of technical assistance and technology transfer are not considered in these assessments.

Not a single Brazilian university can be found among the top 100 universities in the different international rankings. These rankings may be questionable for a number of reasons (Altbach & Balán, 2007; Salmi, 2009; Salmi & Saroyan, 2007), but there is no doubt that the absence of any Brazilian universities in the top hundred is indicative, at least in part, of the provincial nature of Brazilian higher and graduate education. Brazil's universities admit few foreign students and find it difficult to hire foreign professors, and this hinders the attraction of talented human capital. The recently implemented decision by agencies that finance research and graduate students to reduce the amount of funding given to Brazilian students who want to continue their studies abroad has not helped either. Following the logic of academic drift, one would expect that all the Brazilian universities would try to emulate the patterns and achievements of the most prestigious international institutions. But one of the consequences of the academic drift, as noted in the beginning, is the weight of uniformity and conformity, which limits the ability of the best institutions to reach for excellence.

Discusión

The problems related to academic drift are only part of a broad array of issues in Brazilian education, still, academic drift strongly limits what can and should be done to improve the quality of education at all levels. Throughout the world, countries are looking for solutions that can help them manage the massification of education in all tiers, addressing matters such as the roles of academic formation and vocational training, remedial and continuing education, organization and differentiation models of higher education, internationalization, the role of the state and the private sector in providing education, and the links between academic and technological research. In the area of higher education, European countries are currently working on a broad reform movement known as the Bologna Process,¹¹ which seeks to establish internationally accepted quality measurements, allowing for the mobility of students and professionals and creating a more flexible study system. This system would include an initial three-year course of general or vocational education, followed by a one- to two-year professional courses, with a third level of advanced studies lasting three to four years. This would allow for the combination of general, vocational, professional, and high-level scientific and technical training.

Discussion of these matters in Brazil has been rather incipient, despite the growing importance of education in public policy affairs. The discussion has been primarily focused on gradually improving what the country has and less on questioning the existing assumptions and opening up new horizons. Considering the issue of academic drift can be an opportunity to move forward on these matters.

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¹¹ http://ec.europa.eu/education/higher-education/doc1290_en.htm

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